

or more communications antennas and/or communication protocols, encoding parameters, encryption parameters (e.g., encryption method, key, etc.), whether two antenna systems of a CE device are configured to operate as pass-through antenna systems, power transfer levels and/or rates, or other such information or combinations of such information. Still further, some embodiments further specify which antenna within a remote antenna system a first antenna of a first antenna system is to communicate with.

[0056] Additionally, some implementations provide one or more available antenna connections that are configured with the capacity to communicate more than one signal simultaneously, such as through interlacing of multiple signals that are less than a bandwidth of the antenna connection. In some embodiments, the available inputs and available outputs will line up in a logical way. For example, a near field wireless network may include two CE devices and/or antenna systems that each provide an HDMI output and one CE device and/or antenna system that has multiple HDMI inputs. Accordingly, the near field network can be configured and/or a group controller can determine how the inputs and outputs are to be logically aligned with each other, and in many instances a preferred and/or ideal configuration is determined automatically without user intervention (other than, in some instances, to orient the relevant CE device in accordance with instructions should such CE devices need to be physically moved to achieve desired alignment and/or efficient placement).

[0057] Further, for example, some embodiments, in determining the wireless coupling configurations, determine, based on the wireless coupling parameters, that a first communications antenna of one or more communications antennas of a first antenna system is configured to be utilized in accordance with a first predefined wireless communication protocol of a plurality of different communication protocols, and that a first communications antenna of one or more communications antennas of a second antenna system is also configured to be utilized in accordance with the predefined wireless communication protocol. The coupling configurations can then be configured to specify that the first antenna system and the second antenna system are to directly communicate utilizing their respective first communications antennas and via the predefined wireless communication protocol such that the first antenna system is configured to communicate with the second antenna system utilizing the predefined wireless communication protocol. Other factors and/or parameters may also be taken into consideration. For example, the coupling between two communications or power antennas is typically limited by a distance between the communications or power antennas. Accordingly, some embodiments, in determining coupling configurations, further determine, based at least in part on the wireless coupling parameters, whether the first antenna system and typically whether the first antenna of the first antenna system is in wireless communication and/or power transfer range with the first antenna of the second antenna system.

[0058] Other coupling and/or coupling parameters may be taken into consideration with respect to implementing and/or preventing wireless power transfers. For example, one or more parameters may designate whether a CE device is coupled with an external power source (e.g., plugged into a wall outlet) or is operating from a local power source (e.g., battery, capacitance, etc.). As such, when it is determined

that two CE devices are both coupled with an external power source, a configuration instruction can be communicated with an instruction that is configured to prevent power transfer between power transfer antennas of antenna systems of the two CE devices that are coupled with and receiving power from an external power source. Additionally or alternatively, it may be determined that a first CE device is receiving power through a wireless power transfer from another CE device. Accordingly, in some implementations, the coupling configuration may restrict and/or prevent the CE device from further transferring power to a subsequent CE device. This may depend on the device from which the CE device is receiving power (e.g., if the device supplying the power is operating from a local battery).

[0059] Further, some embodiments, in determining the coupling configurations, evaluate capabilities of an antenna array of each of the antenna systems with which they may potentially couple. For example, communication compatibilities between the antenna array of a first antenna system and the antenna array of a second antenna system may be identified, and wireless coupling configurations may be defined to establish a communication connection between one or more communications antennas of the first antenna system and one or more communications antennas of the second antenna system to operate in accordance with one or more of the communication compatibilities. The communication compatibilities can include communication protocols, antenna orientation, wireless range, power levels, and other such compatibilities. Further, in some instances, such coupling configurations can comprise instructions to move and/or reorient one of the first antenna system and the second antenna system to achieve a communication coupling between the one or more communications antennas of the first antenna system and one or more communications antennas of the second antenna system in accordance with the one or more communication compatibilities.

[0060] Additionally, in some implementations, one or more of the antenna systems may be configured without a power transfer antenna or without a communications antenna. Accordingly, in some embodiments, the coupling parameters typically identify the structure and/or capabilities of the antenna system (e.g., that it only includes communications antennas) and the resulting coupling configurations take these limitations into account. As such, a near field network is extendable to situations where one or more of the antenna systems do not include a power transfer antenna or do not include a communications antenna (e.g., only a portion of the antenna systems contain power transfer functionality). For example, a CE device of the near field network (or a CE device newly added to an existing network of CE devices) may include an antenna system that has one or more communication antennas, but does not include a power transfer antenna. The communication with this antenna system (and CE device) is typically managed the same as if the antenna system also has a power transfer antenna, and the coupling configurations would take into account the lack of the power transfer antenna.

[0061] Still referring to FIG. 4, in step 418, communication is initiated with one or more configuration instructions corresponding to the determined coupling configurations to at least one of antenna systems 116. The configuration instructions at least direct each of the plurality of antenna systems to be configured in accordance with the determined wireless coupling configurations. Further, in some embodi-